

TRANSACTIONS

OF

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I. *On the Malayan Species of Melastoma.* By William Jack, M.D.
Communicated by Robert Brown, Esq. F.R.S. and L.S.

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THE East Indian species of *Melastoma* have been little investigated in their native soil; and the few that are mentioned in botanical works have for the most part been so imperfectly described as to occasion much confusion. This splendid genus has now become so extensive as to require being subdivided; but to do this with due regard to the natural series, and to the relative importance of the characters, would demand a critical examination of the whole, and ampler means of reference than are accessible in India. I shall therefore confine myself to such observations as have been suggested by the Malayan species which I have had an opportunity of examining. The whole of these have baccate fruit, and are therefore true *Melastomæ*, as that genus is at present constituted. They vary much in the number of their stamina, but that number is constant in each species. They all agree in having the ovula attached to placenta, which project from the inner angle of the cells; in the

number of the cells corresponding with the divisions of the flower; in the peculiar inflexion of the anthers before expansion; and in having polyspermous berries. The points of difference to be principally attended to are the following: the similarity or dissimilarity of the alternate anthers; the number of the stamina; the anthers being with or without beaks, straight or arcuate; the calyces being hispid or nearly smooth, and having deciduous or persistent segments; the ovary being partially or completely adnate to the calyx. Of these characters, the only one which appears to me to point to a natural division of the species is that of the equality or inequality of the stamina, occasioned by the anthers being alternately pedicellate and sessile on the filaments, as in *Melastoma Malabathrica*, or being all sessile, as in *M. exigua* and others here described. Those of the first division, with unequal stamina, have generally large and beautiful flowers, hispid calyces, with frequently deciduous segments, stamina always double the number of petals, which are either five or four, and arcuate rostrate anthers which, before the expansion of the flower, have their beaks lodged in cells betwixt the calyx and ovary. Those of the second division, with equal stamina, have seldom such conspicuous flowers, have smoother calyces, with segments generally persistent, eight stamina, rarely or never ten, and occasionally only four; anthers sometimes neither arcuate nor rostrate, and their points in that case do not reach before expansion below the summit of the ovary, which is then completely adnate to the calyx. The genus *Maieta* of Ventenat has been founded upon this latter character alone; but it is obviously insufficient for a generic distinction, as it can only be considered secondary to that of the relative length of the anthers, on which depends the complete or partial adhesion of the calyx and ovary: and a little attention to the relations of the different species to each other will show, that a
division

division founded on this latter character could not be established without great violence to their natural affinities. The following species are arranged according to the division now suggested.

* *Antheris alternis dissimilibus*. (MELASTOMA).

1. MELASTOMA OBVOLUTA. W. J.

M. decandra, foliis ovatis quinquenerviis appresso-pilosis, floribus 3—5 terminalibus, bracteis magnis, calycibus squamosis, laciniis ovatis deciduis.

At Tappanooly on the West Coast of Sumatra.

A small branched shrub. *Branchlets* somewhat four-angled, covered with short reddish appressed scales. *Leaves* opposite, petiolate, ovate or elliptic-ovate, five-nerved, pilose, the hairs on the upper surface shorter than those on the lower; these hairs are appressed, and lie in different directions according to the course of the nerves, like the grained fur of animals. The two opposite leaves are often unequal in size. *Petioles* scaly. *Flowers* terminal, three, rarely five, on very short pedicels, each embraced by two large broad-ovate bracts, which completely invest the calyx. These bracts are covered externally with appressed scales, but are smooth towards the margin; they do not fall off till after inflorescence. *Calyx* ovate, covered with long appressed glossy scales; limb divided into five ovate, mucronate, obliquely rotate, deciduous segments, which are membranaceous at the edges. *Corolla* large, purple, five-petalled. *Stamina* ten; *anthers* arcuate, beaked, the alternate five-pedicellate, with two processes at the base. *Ovary* connected by ten partitions with the calyx. *Style* declinate. *Berry* five-celled, many-seeded.

OBS. The flat bristles or scales of the calyx are remarkably long in this species; its limb, after the fall of the segments, is acutely five-angled, and the scales that rise from these angles are so long as almost to appear like lesser laciniae alternating with the true ones.

2. MELASTOMA MALABATHRICA. Linn.

TAB. I. Fig. 1. a—g.

M. decandra, foliis elliptico-lanceolatis quinquenerviis scabris, pilis brevibus appressis, floribus 7—11 opposite corymbosis, bracteis ovatis deciduis calyce minoribus, calycibus squamosis, laciniis deciduis.

Kadali. *Rheed Malab.* iv. p. 87. t. 42.

Fragarius niger. *Rumph. Amb.* iv. p. 137. t. 72.

Sikadudu. *Malay.*

Abundant throughout Sumatra and the Malay islands, and chiefly occupying open waste lands or coppices.

In giving the above character of this well known species, I have been obliged to add to the usual specific phrase, in order to distinguish it from the preceding, to which it has so much resemblance that they might easily be confounded together. The leaves of this are longer and less hairy, and the scales of the calyx are much shorter and more appressed than in *M. obvoluta*. The principal distinction however is in the inflorescence, the flowers in this being numerous, generally from seven to eleven, in a kind of corymbose panicle, and the bracts small; while in the preceding the number of the flowers seldom exceeds three, and each is invested by two large bracts, which entirely inclose the calyx, and do not fall off till the petals are fallen. The two following species have also considerable resemblance to the present,

sent, but are readily distinguished on inspection by having their calyces covered with erect bristles in place of flat scales.

This species (as well as all the rest) has the ovula attached to placentæ projecting from the inner angle of the cells: as the fruit ripens the cells become filled with pulp; and the placentæ consequently less distinct; this probably occasioned Gærtner to fall into an error in ascribing to *Melastoma* nidulant seeds, and establishing on this a distinction between it and *Osbeckia*.

3. MELASTOMA ERECTA. W. J.

M. decandra, foliis quinquenerviis ovatis utrinque acutis villosis, floribus 5—7 terminalibus corymbosis, calycibus scabris pilis longis erectis, laciniis linearibus deciduis.

Found at Tappanooly in Sumatra.

A small erect shrub. *Branches* round or obscurely four-sided, ferruginous, rough with erect hairs. *Leaves* opposite, petiolate, ovate, acute at both ends, four or five inches long, five-nerved, with an additional marginal line, edges recurved and denticulate, softly tomentose or pilose above, villous beneath, with strong erect hairs. *Petioles* nearly half an inch long, pilose. *Flowers* terminal, somewhat corymbose, pedicellate, generally from five to seven, large. *Bracts* small. *Calyx* ovate, beset with strong erect bristly hairs; *limb* divided into five long, linear, acute, deciduous segments. *Corolla* purplish-red, five-petalled; *petals* large, spreading. *Stamina* ten; *anthers* arcuate, beaked, the alternate ones pedicellate. *Style* declinate. *Berry* pilose, ovate, five-celled, many-seeded.

4. MELASTOMA

4. MELASTOMA DECEMFIDA. Roxb.

M. decandra, floribus subsolitariis terminalibus, foliis quinque-nerviis, calyce decemfido setis mollibus porrectis echinato.

Roxb. *Cat. Hort. Beng.* p. 90.

Native of Pulo Penang.

A large shrub. *Branches* round, beset with scattered strigose scales. *Leaves* opposite, petiolate, ovate-lanceolate, acute and attenuated to the point, nearly entire, sometimes spinulose on the margin, five-nerved, with some scattered appressed hairs on both surfaces. *Petioles*, as well as the nerves of the under surface, covered with appressed strigæ, channelled above, and ciliate with long hairs along the margins. *Flowers* very large, nearly solitary, terminal, short-peduncled. *Calyx* ovate, densely covered, as well as the peduncle, with long erect soft spine-like bristles, ten-cleft: *laciniæ* long, subulate, the alternate ones shorter. *Petals* five, large, red, spreading. *Stamina* ten, arcuate, rostrate; five larger, with pedicellate anthers, appendiculate at the base. They are lodged in the cells between the calyx and ovary before expansion, as in other species. *Style* filiform. *Fruit* five-celled, many-seeded.

Obs. This species has considerable resemblance to the *M. Malabathrica*, but has larger finer flowers.

5. MELASTOMA STELLULATA. W. J.

M. octandra, pedunculis axillaribus 1—5-floris, calycibus setosis, setis erectis spinescentibus apice stellato-multifidis, foliis oblongo-ovatis trinerviis subtus tomentosis.

Daduruh Akkar. *Malay.*

West Coast of Sumatra.

A shrub

A shrub with long slender tomentose branches. *Pubescence* stellate. *Leaves* opposite, petiolate, oblong-ovate, elongated to the point and acuminate, rounded or cordate at the base, three or four inches long, three-nerved, entire, smooth above, ferruginously tomentose beneath. *Petioles* short, ferruginous. *Peduncles* axillary, three- sometimes one-flowered, and more rarely paniculately five-flowered. *Pedicels* long, four-sided, tomentose, thickened at the joints and below the flowers. *Bracts* leaf-like, at the divisions of the peduncle, opposite. *Calyx* oblong, somewhat tubular, tomentose, and furnished besides with long erect spinous bristles, with stellate points; *i. e.* whose points are armed with a radiated fascicle of diverging setæ; *limb* four-parted; *segments* oblong, ciliate. *Corolla* four-petalled, spreading; *petals* somewhat acute. *Stamina* eight, unequal; four long, with pedicellate anthers and filaments furnished with a fascicle of hairs at the apex; four short, with sessile anthers and bisetous filaments; all the anthers arcuate, and opening by pores at the top. *Ovary* oblong, in the bottom of the calyx, and attached to it by eight septa forming an equal number of cells, in which the points of the anthers are lodged before the expansion of the flower, four-celled, polysporous; *ovula* attached to central placentæ. *Style* declinate, thickened at the base, as long as the stamina. *Berry* contained in the persistent calyx, to which it becomes adnate, ovate, four-celled, many-seeded.

OBS. The peculiarity of the bristles of the calyx having stellate points, at once distinguishes this species from all the rest. Besides these bristles the calyx is covered with a short ferruginous wool, and the segments appear to be persistent. It was sent to me from Saloomah, and is by no means a common species.

6. MELASTOMA NEMOROSA. W. J.

M. octandra, pedunculis axillaribus 1—3-floris, foliis ovato-lanceolatis quinquenerviis subtus cum calycibus, ramis, pedunculisque ferrugineo-villosis.

Banga útan. Malay.

Native of the Malay Islands.

A shrub with long, virgate, round, ferruginous branches. *Leaves* opposite, petiolate, ovate-lanceolate, acuminate, slightly cordate at the base, very entire, smooth and green above, hoary with ferruginous dots beneath; five-nerved, the outer pair of nerves close to the margin. The young leaves are villous on both sides; on the upper with white stellate hairs, which soon disappear, and are rubbed off with the slightest touch; below with reddish ferruginous pubescence. *Petioles* short, round, ferruginous, connected by a prominent interpetiolar line. *Stipules* none. *Peduncles* axillary, solitary, one- to three-flowered. *Calyx* inferior, subovate, closely embracing the ovary, and connected with it by eight septa, rough with ferruginous pubescence; *limb* four-parted; *laciniæ* spreading, acute. *Corolla* four-petalled, of a flesh or light rose colour, spreading; *petals* subrotund, inserted into the calyx alternately with its laciniæ. *Stamina* eight, inserted below the petals, ascending, with arcuate rostrate anthers; four are longer, have pedicellate anthers, with fimbriated appendages at the base; the shorter have sessile anthers, with two setæ or bristles at the base. Before expansion the anthers are incurved, and have their apices inserted into the cells formed between the calyx and ovarium. *Style* ascending, as long as the short stamina. *Stigma* simple, recurved. *Fruit* within the calyx, and adhering to it by the above-mentioned septa, four-celled, many-seeded.

OBS.

OBS. This is a very beautiful large flowered species, and is a great ornament to the thickets which it frequents. I have met with it in various places, as on Sumatra, Pulo Nias, &c.

7. MELASTOMA BRACTEATA. W. J.

M. octandra, floribus paniculatis terminalibus, bracteis magnis ovatis, foliis cordato-ovatis quinquenerviis, calyce stellato piloso, limbo subintegro.

Oosa. Malay.

Native of Pulo Penang.

The whole shrub with the exception of the upper surface of the mature leaves is covered with ferruginous points or dots of stellate hairs. *Branches* round. *Leaves* opposite, short-petioled, ovate, acuminate, cordate at the base, entire, smooth above, pilose with stellate hairs beneath, five-nerved. *Panicles* long, terminal, with opposite ramifications. *Bracts* large, pale, and membranaceous, ovate, obtuse, attenuated to the base, as if petiolate. *Calyx* oblong, greenish, adhering to the ovarium by eight septa, limb almost entire, with four obscure toothlets. *Corolla* of a pale rose-colour, four-petalled, spreading, petals ovate, obtuse, and as if truncate. *Stamina* eight, filaments red, furnished with two bristles at the insertion of the anthers. *Anthers* arcuate, rostrate; four are red, and rather longer than the other four which are yellow and more incurved. *Style* declinate, as long as the stamina. *Stigma* simple. *Fruit* inclosed in the calyx, four-celled, many-seeded.

OBS. The large bracts which envelop the young flowers distinguish this species; the flowers are not large, but their number compensates for it.

** *Antheris omnibus consimilibus.* (STOMANDRA).

8. MELASTOMA EXIGUA. W.J.

TAB. I. fig. 2. a—f.

M. octandra, paniculis terminalibus, foliis longe petiolatis ovatis acuminatis glabris quinquenerviis, calyce quadridentato.

Native of Pulo Penang.

An erect branched shrub, with brownish bark and four-sided branches, sparingly sprinkled with rusty down. *Leaves* large, opposite, long-petioled, ovate, acuminate, acute at the base, almost entire, smooth, five-nerved, with strong transverse reticulated veins. *Petioles* long, channelled above, smooth. *Stipules* none. *Panicles* terminal, erect, small, with opposite divaricate ramifications. *Flowers* small and inconspicuous. *Calyx* inferior, tubular, connected with the base of the ovary by eight septa; limb erect, four-toothed. *Petals* four, small, white with a tinge of red, ovate, acute. *Stamina* eight, nearly erect, the alternate ones a little shorter. *Anthers* purple, erect, linear, acute, emarginate at the base (neither curved, rostrate, nor appendiculate). *Style* ascending, as long as the stamina. *Stigma* simple. *Fruit* small, dry, ovate-oblong, four-celled, many-seeded; the placentæ from the axis.

OBS. This species is remarkable by its very small flowers disposed in a divaricate open panicle; and the comparatively large size of its leaves. The fruit might perhaps properly be considered a capsule, as it appears to be destitute of pulp. The gradations from a berry to a capsule in this family are such, that it is difficult to draw the line of distinction; and it seems questionable, whether this difference, when unsupported by other characters, can be considered of generic value.

9. MELA-

9. MELASTOMA ROTUNDIFOLIA. W. J.

M. octandra, foliis maximis subrotundis septemnerviis, floribus capitatis involucre.

Segoonil. Malay.

Found in the Musi Country, in the interior of Sumatra.

A shrub. *Leaves* opposite, long-petioled, subrotund, with a sharp acumen at the point, sometimes cordate at the base, about nine inches long, entire, seven-nerved, with a less distinct additional pair near the margin, the middle ones combined a little above the base, nearly smooth, dotted with ferruginous points, particularly on the under surface and on the nerves, deep green above, pale tinged with red beneath. *Petioles* from five to eight inches long, channelled above and ciliate with long soft hairs. *Peduncles* axillary, solitary, shorter than the petioles, supporting a dense head of involucre flowers. *Flowers* numerous, pedicelled, collected into a roundish head. *Involucre*, of five or six large, cordate, broad, many-nerved, ciliate, purple leaves embracing the flowers. *Calyx* tubular, nearly smooth, dotted; limb quadrifid. *Corolla* purple, four-petalled. *Stamina* eight, equal. *Anthems* arcuate, beaked, inappendiculate, having their points inflexed before expansion. *Ovary* connected by septa to the bottom of the calyx, four-celled, polysporous, with central placentæ. *Style* long. *Berry* four-celled, many-seeded.

Obs. This is a very singular and well marked species, distinguished from all the others of the genus by its large subrotund leaves, and by the peculiarity of having the flowers in a crowded head surrounded by a large involucre. In this particular it deviates widely from the usual habit of the

Melastomæ. It is rarely met with, and has only been obtained by me from Musi, a district lying immediately inland of Bencoolen.

10. MELASTOMA PALLIDA. *W. J.*

M. octandra, floribus paniculatis axillaribus et terminalibus, foliis ovatis quinquenerviis glabriusculis, antheris supra basin affixis.

Native of the Malay Islands.

A shrub with round branches powdered as it were with small dots. *Leaves* opposite, petiolate, ovate, subcordate, acuminate, four or five inches long, five-nerved, entire, smooth above, sprinkled with small dots beneath. *Petioles* short. *Flowers* oppositely panicked, axillary and terminal, white. *Bracts* small, acute. *Calyx* nearly smooth, four-sided, limb obscurely four-lobed. *Corolla* four-petalled, petals oblong, obtuse. *Stamina* eight, equal; filaments with two bristles at the top; anthers curved, beaked, opening by a pore, attached to the filaments a little above the base on the inside, and before expansion turned downwards so as to have their faces closely applied to the filaments. *Ovary* connected to the calyx by eight septa or partitions, four-celled, polysporous. *Style* nearly as long as the stamina. *Berry* four-celled, many-seeded.

Obs. The insertion of the filaments is here somewhat different from what is usual in this genus, being, as it were, articulate a little above the base of the anther, and there forming a hinge on which the anther moves. This structure becomes still more singular in the following species, where the filament is inserted nearly as high as the middle of the anther, and is adnate to it from thence as far as the base, being thus

thus recurved upon itself when the anther comes into the erect position. The two species are nearly related, being principally distinguished by the number of the stamina, which are only four in the latter.

11. MELASTOMA FALLAX. W. J.

M. tetrandra, paniculis terminalibus, foliis ovatis quinquenerviis subtus tomentosis, antheris erectis infra medium affixis.

Native of Sumatra.

A shrub with long rather compressed tomentose branches. *Leaves* opposite, petiolate, ovate, cordate at the base, acuminate, four or five inches long, entire, five-nerved, smooth above, tomentose and ferruginous beneath. *Petioles* about half an inch in length. *Panicles* terminal, erect, many-flowered; divisions opposite. *Bracts* small, acute, at the base of the flowers, opposite. *Calyx* adnate to the ovary, four-sided, contracted at the mouth; limb spreading, almost entire, four-cornered. *Corolla* white, four-petalled; petals subrotund, inserted on the calyx. *Stamina* four, filaments erect, expanded into a membrane at the summit, which is adnate to the anther from near their middle to their base; anthers thick, corrugated, nearly straight, without appendices at the base, beaked, opening by a pore at top, attached by their anterior faces to the filaments a little below the middle. Before flowering the anthers are doubled downwards upon the filaments, so as to have the appearance of being pendulous; by the extrication of their beaks, however, the upper part of the filament is reflexed, and the point of insertion, which before expansion was posterior, becomes anterior. *Ovary* adnate to the calyx without connecting septa or cells, the beaks of the anthers not reaching

so low ; four-celled, polysporous, placentæ from the inner angles. *Style* erect, as long as the stamina. *Berry* ovate, four-celled, many-seeded.

Obs. Besides being tetrandrous, this species is remarkable for the unusual mode of attachment of the anthers to the filaments, of which a partial example is afforded in the preceding. There is a strong resemblance between the two in habit as well as in this particular. Here we have the ovary completely adnate to the calyx, while in the preceding the anthers reach lower down, and are therefore lodged in cells betwixt them ; but the two species are too nearly related in all other respects to admit of being separated on this account.

12. MELASTOMA GRACILIS. W. J.

M. octandra, staminibus alternis nanis, paniculis terminalibus gracilibus, foliis ovatis acuminatis glabris trinerviis, ramis compressis.

Sedudu akar. *Malay*.

Sumatra.

A shrub. *Branches* compressed, nearly smooth. *Leaves* opposite, petiolate, ovate or lanceolate-ovate, rounded at the base, very acuminate, four inches long, smooth, dotted with minute tubercles above, three-nerved, with a less distinct marginal pair, the transverse veins conspicuous. *Petioles* short, slender. *Panicle* terminal, oppositely branched, peduncles and pedicels slender, thickened at their joints. *Bracts* linear. *Calyx* ovate, smooth ; limb absolutely four-lobed, persistent. *Corolla* blueish-white, four-petalled. *Stamina* eight, the alternate ones considerably smaller ; anthers nearly straight, without beaks, furnished at the base with
two.

two long linear flat appendices or awns ; their points before expansion only reaching to the top of the ovary. *Ovary* adnate to the calyx, four-celled, polyspermous ; placentæ from the inner angles. *Style* simple, erect. *Berry* globose, smooth, rather dry, four-celled, many-seeded.

Obs. This is a slender, delicate, small-flowered species, having considerable resemblance to the following. The alternate stamina are here very small, so as almost to appear abortive ; but the form and structure of all the anthers and their appendages are precisely the same. In the first division of the *Melastomæ*, the inequality of the stamina is occasioned by the dissimilar structure of the alternate anthers ; in the second, whatever difference may occur in their relative lengths, their structure is precisely alike. No ambiguity can therefore be occasioned by such an inequality as exists in this species, were even its real affinities less strongly expressed in its general habit and secondary characters.

13. MELASTOMA GLAUCA. W. J.

M. tetrandra, paniculis terminalibus glaucis, foliis quinquener-
viis acuminatis basi cordatis glabriusculis.

Osbeckia tetrandra. *Roxb. Cat. Hort. Beng.* p. 88.

Tuniong utan. *Malay*.

Abundant at Pulo Penang.

A shrub of considerable height, with stellulate pubescence. *Branches* spreading, round, pubescent. *Leaves* opposite, short-petioled, recurved, ovate-oblong, cordate at the base, acuminate, entire, very smooth, thinly sprinkled beneath with stellulate hairs, somewhat rigid, five-nerved, with prominent transverse veins. *Petioles* short, tomentose, channelled above and ciliate on the edges, connected by an
inter-

interpetiolar line. *Stipules* none. *Panicles* terminal, with opposite divaricate ramifications, glaucous throughout. *Bracts* ovate, acute, ciliate. *Calyx* oblong, smooth, glaucous, cærulescent above. *Limb* entire. *Corolla* of a delicate blue, four-petalled, spreading; *petals* ovate, acuminate. *Stamina* four fertile, ascending; *filaments* appendiculate at the apex; *anthers* long, much curved, rostrate, opening by a pore at top; besides these there are two abortive filaments. *Ovary* connected to the calyx by four septa, between which the beaks of the anthers are lodged before expansion, four-celled, polysporous; *placentæ* from the inner angles of the cells. *Style* reddish, longer than the stamina. *Stigma* simple. *Berry* of a fine glaucous-purple colour, ovate, four-celled, many-seeded.

Obs. This is a handsome shrub, easily distinguished by the glaucous tint of its panicles, and in general appearance has considerable resemblance to the preceding. Only four stamina are here fertile, but they are accompanied by two small filaments without anthers. The leaves are of a deep green, rather rigid, with strongly-marked nerves and veins. While young, both surfaces are sprinkled with stellulate pubescence, which is easily rubbed off, and disappears with age. The appendages of the stamina are in the form of rounded auricles.

14. MELASTOMA VIMINALIS.

M. octandra, foliis oblongis obtuso-acuminatis basi cordatis quinquenerviis, paniculis trichotomis, bracteis oppositis oblongis ciliatis, antheris quatuor alternis sterilibus.

Native of Sumatra.

A large climbing shrub. *Branches* long and drooping, round, pubescent, tinged with purple. *Leaves* opposite, sub-bifarious,

rious, petiolate, oblong, cordate at the base, terminating in a long obtuse acumen, entire, smooth above, sprinkled with minute stellate hairs beneath, five-nerved, the outermost pair less distinct than the others; five or six inches long. *Petioles* short, generally furnished with one or two setæ on the edges immediately below the leaf. *Stipules* none; interpetiolar line prominent, naked. *Panicles* oppositely corymbose, trichotomous, terminal and axillary, the whole forming a large foliose panicle at the end of the branch. *Bracts* rather large, opposite, erect, oblong, ciliate, pubescent as well as the peduncles and calyces. *Calyx* oblong-ovate; *limb* nearly entire. *Corolla* white, four-petalled; *petals* acute, subrotate. *Stamina* eight, of which four are fertile, bearing thick, straight, yellow anthers; the alternate four are sterile, of nearly equal length, but having in place of an anther a simple filiform process, which is appendiculate at the base: both are equally incurved between the calyx and ovary before expansion. *Style* subulate, declinate. *Stigma* small. *Berry* sub-globose, purple, four-celled, many-seeded. *Seeds* attached to placentæ, which project from the inner angle of the cells.

15. MELASTOMA EXIMIA.

M. octandra, paniculis terminalibus, foliis maximis glaberrimis elliptico-ovatis quintuplinerviis.

Found on the side of Gunong Búnko, commonly called the Sugar-loaf Mountain, in the interior of Bencoolen.

This is a large shrub with irregularly four-sided branches. *Leaves* opposite, short-petioled, very large, elliptic-ovate, acute at both ends, with a short acumen at the point, entire, very smooth, thick and leathery, quintuple-nerved, fifteen

or sixteen inches long. A dense circle of brown-coloured bristles surrounds the joints of the stem within the axils. *Panicles* terminal, large, red, the subdivisions quaternate; *bracts* similarly quaternate and verticillate, ovate. *Flowers* pale flesh-coloured. *Calyx* oblong; *limb* obsolete four-toothed. *Petals* four. *Stamina* eight, nearly equal; *anthers* similar and equal, purple, furnished with two short yellow appendages at the base. *Ovary* connected with the calyx by eight septa. *Style* simple. *Berries* reddish-purple, four-celled, many-seeded.

OBS. This is a very remarkable and splendid species, with uncommonly large deep-green leaves, and highly coloured panicles.

16. MELASTOMA RUBICUNDA. W. J.

M. octandra, floribus axillaribus dichotome cymosis rubescenti-pellucidis, calycis margine integro, foliis oblongo-ovatis triplinerviis glaberrimis.

Native of the forests of Singapore.

A shrub with long branches and cinereous warted bark. *Leaves* opposite, short-petioled, oblong, ovate, acuminate, obtuse at the base, triple-nerved, very entire, very smooth, pale green and punctate beneath. *Petioles* short, thick. *Cymes* somewhat paniculate, axillary, dichotomous, divaricate; *peduncles* and *pedicels* smooth and red. *Calyx* semi-inferior, sub-globose, somewhat pellucid, and of a delicate red, fleshy, smooth, attached to the ovary by eight partitions; margin entire and incumbent. *Corolla* white, almost diaphanous, four-petalled; *petals* oblong, reflexed. *Stamina* eight, erect. *Anthers* long, curved, beaked, bituberculate at the base, red, before expansion having their points lodged in the cells betwixt

betwixt the calyx and ovary. *Style* as long as the stamina. *Stigma* simple. *Berry* rubescent, four-celled, many-seeded.

17. MELASTOMA PULVERULENTA. W. J.

M. octandra, floribus terminalibus corymboso-paniculatis rubicundis pulverulentis, foliis ovatis basi bituberculatis glaberrimis trinerviis.

Sibiring. Malay.

Found, along with the preceding, at Singapore, and in many parts of Sumatra and the islands which skirt its western coast.

A shrub with smooth brown bark, and furfuraceous branches. *Leaves* opposite, petioled, ovate, obtuse, bituberculate at the base, very entire, very smooth, three-nerved, veins not prominent, coriaceous, paler beneath. *Stipules* none. *Petioles* short, round, furfuraceous. *Panicles* terminal, oppositely corymbose: *peduncles* dichotomous, reddish and papillous. *Calyx* sub-globose, obscurely four-angled, surrounding the ovary, rubescent, pulverulent; *limb* four-lobed. *Corolla* four-petalled, red, sprinkled with yellow powder; *petals* spreading, lanceolato-ovate, with a small toothlet on each side. *Stamina* eight, erect; *anthers* long, red, with white cells, opening by a pore at the top, straight, furnished behind the base with a fascicle of white hairs; before expansion incurved like the other *Melastomæ*, but being without beaks, not reaching beyond the top of the ovary. *Ovary* adnate to the calyx, four-celled, many-seeded; *placenta* from the inner angle of the cells. *Style* declinate, as long as the stamina. *Stigma* obtuse. *Berry* sub-globose, four-celled, many-seeded.

Obs. These two Singapore species are nearly related to each other,

other, and differ considerably in habit from the other *Melastomæ* chiefly in their extreme smoothness and the greater delicacy of their flowers. The latter is by far the most frequent, and appears to prefer the neighbourhood of the sea. The tubercles of the leaf are formed by the incurving of its base upon the petiole at the point of junction: they are rarely exactly opposite, but generally higher on the one side than the other. The petals have a kind of appendix or toothlet on the margin, a little above the middle. In the former species the petals are singularly transparent and delicate.

18. MELASTOMA ALPESTRIS.

TAB. I. Fig. 3. *a—d*.

M. decandra, paniculis terminalibus, foliis sessilibus glaberrimis crenulatis quintuplinerviis.

Found on the summit of the Sugar-loaf Mountain (Gunong Búnko) in Sumatra.

A small shrub, with smooth sub-dichotomous branches. *Leaves* opposite, sessile, semi-amplexicaul, ovate, elongated upwards, obsoletely crenate, very smooth, coriaceous, pale green, with a purplish shade beneath, quintuple-nerved; three to four inches long. A circle of short brown threads in the axils. *Panicles* terminal, divaricate, flesh-coloured. *Bracts* small. *Calyx* five-dentate. *Corolla* five-petalled, of a delicate flesh-colour, rotate; *petals* obtusely notched at the point. *Stamina* ten, ascending, equal. *Anthers* similar and equal, curved, beaked, dark-purple, having a toothlet or spur behind; before expansion their points reach about half way down between the calyx and ovary. *Style* simple. *Berries* red, five-celled, many-seeded.

OBS. This is the first decandrous species I have met with belonging

ing to the second division of *Melastomæ* with similar anthers. In habit and in the texture of the leaves it has a close resemblance to *M. pulverulenta*, but its flowers have more resemblance to those of *M. rubicunda*; it must be associated with these two. From the characters of this species, it appears that neither the number of the stamina, nor of the nerves of the leaves, afford subdivisions consonant to the natural series. I met with this plant on the very summit of the Sugar-loaf, along with *Rhododendra* and *Vaccinia*.

EXPLANATION OF THE FIGURES IN TAB. I.

Fig. 1. *Melastoma Malabathrica*.

- a. The calyx.
- b. The flower.
- c. The same laid open, to show the stamina.
- d. A longitudinal section of the unexpanded flower, showing the manner in which the anthers are lodged in cells between the calyx and ovary.
- e. A transverse section of the same, showing the septa by which the calyx is connected with the ovary.
- f. The fruit.
- g. A transverse section of the same.
All of the natural size.

Fig. 2. *Melastoma exigua*.

- a. The calyx.
- b. The flower.
- c. The same cut open, to show the stamina.
- d. Two stamina magnified.
- e. The fruit.
- f. A transverse section of the same.

Fig.

Fig. 3. *Melastoma alpestris*.

a. The flower.

b. The same cut open, showing the stamina.

c. The fruit.

d. A transverse section of the same.

All of the natural size.